KANSAS DEPARTMENT OF AGRICULTURE

Ozark Plateau Aquifer Newsletter

DWR Anticipates Water Study Results

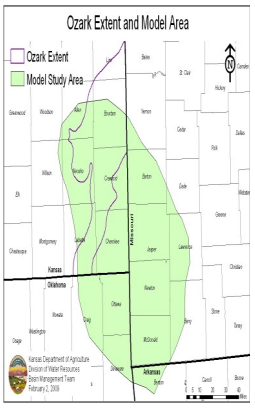
Goal

Manage the Ozark Plateau Aquifer system and its surface water sources in southeast Kansas for long-term sustainability, to meet current and long-term growth demands, provide good quality water and to meet minimum desirable streamflow.

Next edition of the Ozark Newsletter will have study results.

To learn more, visit our website at www.ksda.gov/subbasin/.

The Kansas Department of Agriculture's Division of Water Resources is waiting for the early June release of the U.S. Geological Survey's report and model, "Groundwater Flow Model of the Ozark Plateaus Aquifer System, Northwestern Arkansas, Southeastern Kansas, Southwestern Missouri, and Northeastern Oklahoma." The study area included in the model is shown on the adjacent map. It will allow resource managers to simulate the effect of additional groundwater withdrawals and provide water availability information.



Ozark extent and model area.

This MODFLOW groundwater model and the associated report will provide an important water management support tool for the Division of Water Resources when it considers whether additional appropriations of groundwater will be allowed from this aquifer. It also will be used to help identify whether moratorium term permit applications granted in the moratorium area should be converted to regular appropriations, be reduced, or be dismissed. USGS plans to hold a public information meeting to present the study results once the report is released for distribution. David Barfield, chief engineer of the Division of Water Resources, is expected to provide comment at the meeting.

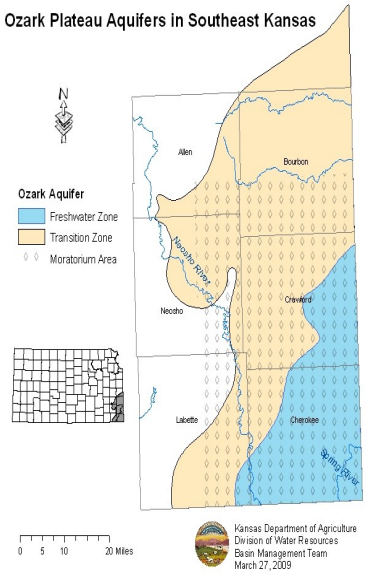
DWR also is waiting for two water quality reports, one from the USGS and the other from the Kansas Geological Survey. Water quality concerns in the region stem from the mining that took place in the region in the past, in addition to the concern that increased pumping may cause an upwelling of saltwater into the freshwater zone. Mid-May is the anticipated release date for the USGS final report related to a water quality study that was recently completed for the Ozark and Springfield Plateau aquifers groundwater system.

In late May, KGS anticipates releasing their water quality report for the same area titled, "Pumping-Induced Water Quality Changes in the Ozark Plateaus Aquifer System, Southeast Kansas." Allen Macfarlane of KGS presented information from this draft report to the state recently. Draft data indicate there have been some changes in water quality compared to water quality data collected under previous KGS work in the late 1970s and early 1980s. No evidence of lateral or upward migration was identified.

Read this fall's newsletter for more information on these studies, or visit our website at www.ksda.gov/subbasin/ and select Ozark Plateau Aquifers.

Inside this issue:

2008 Ozark Field Summaries Available Online



Ozark Plateau aquifers in southeast Kansas.

by Tara Lanzrath

The Subbasin Water Resource Management Program compiles annual field summaries of hydrologic data for each subbasin within a project area. The 2008 Ozark Plateau field summary is now available. Within the Ozark Plateau project area there are two aquifers: an upper Springfield Plateau aquifer and a lower Ozark aquifer. The Ozark Plateau project area lies within the moratorium area of southeast Kansas as shown on the adjacent map, and the 2008 summary for the area is now available. Data include USGS streamflow, National Climatic Data Center precipitation, water levels, water quality and water use, in addition to general background information on the geographic area.

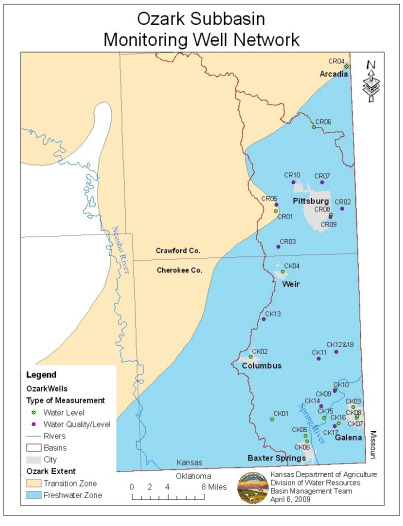
In 2008, the Ozark Plateau moratorium area received 54 inches of rain, which is above average. This improved streamflow and kept the Neosho and Spring rivers above minimum desirable streamflow levels for 2008. General groundwater levels increased or remained fairly stable, although parts of Cherokee County did experience some decline. Water use in 2007 decreased slightly from 2006, but it is still above average for the region.

For more detailed information on the Ozark Plateau region, please visit our website at www.ksda.gov/subbasin/ and select Ozark Plateau Aquifers and Field Summaries.

Ozark Well Monitoring Network

Ozark Plateau Aquifer

by Tara Lanzrath



Ozark monitoring well network.

In 2004, a groundwater well monitoring network was re-established in the Ozark moratorium area. Well locations are identified on the adjacent map.

The network includes 24 wells within the Springfield Plateau aquifer, the Ozark aquifer, or both aquifers (referred to as the Ozark Plateau aquifer). They are measured every quarter by staff from Kansas Department of Agriculture's Division of Water Resources. To detect whether salt water is moving eastward, a 12-well network, which appears as purple dots on the map, was established to collect quarterly water quality samples. Three continuous monitoring wells were drilled and equipped with transducers with satellite telemetry capabilities.

Generally, winter (December, January and February) water level measurements are used in the Subbasin Water Resource Management Program analysis. However, spring, summer and fall were historically the most common times to measure in this region. Therefore, fall measurements (September, October and November) are used in the analysis for field summaries until a longer period of winter measurements are available.

For more information on the Ozark Plateau region and monitoring well network, visit our website at www.ksda.gov/subbasin/ and select Ozark Plateau Aquifers.

Tri-State Water Resource Coalition

Missouri-American Water Company hired Wittman Hydro Planning Associates to complete a regional groundwater study for southwest Missouri. Conclusions from that study indicated that by 2012, the water supplied by the Ozark aquifer may not be adequate to meet projected future demand. Because of this concern, the Tri-State Water Resource Coalition was organized in 2003 by its current president, Robert Nichols. The nonprofit coalition includes government representatives, local entities and local residents who share a common concern for future water supplies for the tri-state area (Missouri, Kansas and Oklahoma).

Ozark Aquifer system Kansas, Oklahoma, Missouri and Arkansas.

In 2006, Tri-State released a study conducted by Black and Veatch Engineering and the U.S. Army Corps of Engineers that investigated future water needs and supplies for the tri-state area, and included considering constructing a new reservoir. In 2008 Tri-State, with assistance from the Missouri Department of Natural Resources, initiated a reservoir study with Freese and Nichols Engineering. The study identified specific sites in southwest Missouri that potentially could fulfill future water needs for the tri-state area. The final report should be released soon, and it will help Tri-State identify future options and direction.

Tri-State is at a critical juncture and is looking at how the organization can best serve the needs of the tri-state area. To meet future water demands, Tri-State continues to work with government and water supply districts both in and out of state to find ways to use water from existing sources like streams, reservoirs and treatment plants. Public awareness also is considered key to future water supplies. Tri-State realizes that the public plays an important role in conserving and protecting current water supplies, whether they are surface water or groundwater, and supports many groups and conferences dedicated to conserving and protecting water supplies.

Conclusions of the study indicate that by 2012 the water supply from the Ozark Aquifer may be inadequate for projected future demand.

Current Activities

- Developed an interagency strategic plan that addresses hydrologic investigations, water rights management, public water supply, interstate management and local education/coordination
- Aquifer monitoring for short- and long-term changes in water levels and water quality using existing and newly installed monitoring wells. A summary of the monitoring efforts can be viewed on our website at www.ksda.gov/subbasin/content/297/cid/1405
- Coordinating efforts with state and local interests in Missouri and Oklahoma

KANSAS DEPARTMENT OF AGRICULTURE

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Division of Water Resources Publishes Newsletter

DWR Currents is an electronic newsletter that is distributed quarterly and focuses on providing information related to Kansas' water resources. You can subscribe to receive the newsletter by email, or you can view current and past newsletters online at www.ksda.gov/dwr/.

The Ozark Plateau Newsletter is a biannual publication with the latest news and events. The newsletter is sent by email, or it can be viewed online. To sign up to receive the newsletter, or to view it online, visit www.ksda.gov/subbasin/mailing_list/id/75.

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Subbasin Water Resource Management Program

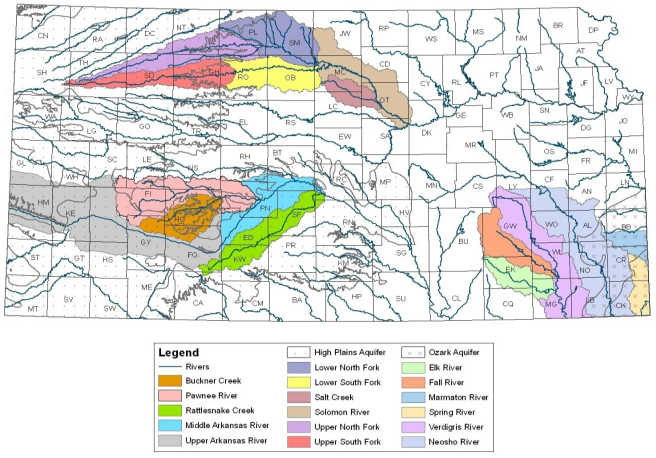
Mission Statement

To analyze aquifers and stream systems in targeted areas and work with stakeholders to develop and assess strategies to protect water rights and improve hydrologic sustainability.

The program uses a five-phase process that includes:

- Initiating the project
- Analyzing and educating
- Evaluating alternatives
- Making recommendations
- Implementation

Visit www.ksda.gov/subbasin/ to learn more.



SWRMP project areas.